

Application No. 10/567,241
Amendment under 37 CFR 1.111
Reply to Office Action dated June 24, 2010
September 24, 2010

REMARKS

By this amendment, claim 4 has been cancelled, claims 1-3 and 5-26 have been amended and new claim 28 has been added in the application. Currently, claims 1-3 and 5-28 are pending in the application.

The indication that claims 10-13, 17-21 and 23-27 contain allowable subject matter is noted with appreciation.

Claims 1-9, 14-16 and 22 were rejected under 35 USC 102(b) as being anticipated by Hayashi et al. (U.S. Patent No. 5,434,618).

This rejection is respectfully traversed in view of the amendments to the claims and the remarks below.

The present invention relates to a semiconductor memory card, and an access device and a method for accessing the semiconductor memory card (see page 1, lines 5-7 of the specification).

In FIG. 1, an access device 100 includes a CPU 101, RAM 102, slot 103 and ROM 104 (see page 15, lines 7-9 of the specification).

Application No. 10/567,241
Amendment under 37 CFR 1.111
Reply to Office Action dated June 24, 2010
September 24, 2010

The semiconductor memory card 111 includes a host interface (I/F) 112, CPU 113, RAM 114, ROM 115, memory controller 116, nonvolatile memory 117, first memory 118 and second memory 119 (see page 15 lines 21-25 of the specification).

The first memory 118 is an updatable nonvolatile memory, which includes a card information storage section 132 for storing information on the access performance of the semiconductor memory card 111. The first memory 118 is used as a card information storage memory (see page 16 lines 15-18 of the specification).

The card information storage part 132 is a storage part for storing information on the access performance of the semiconductor memory card 111 therein. FIG. 7 is a view showing an example of information stored in the card information storage part 132, which stores at least one of first to fifth information therein (see page 23, lines 3-9 of the specification).

First information contained in the card information is information on internal physical characteristics of the semiconductor memory card 111. The information includes, for example, the type of a flash memory used in the semiconductor memory card 111, the number of used memories, management method of the semiconductor memory such as presence or absence of

Application No. 10/567,241
Amendment under 37 CFR 1.111
Reply to Office Action dated June 24, 2010
September 24, 2010

parallel writing to the memory, erase block size of the flash memory, management block size in the semiconductor memory card 111, temperature condition, power consumption, current value, voltage value and card type (see page 23, lines 11-21 of the specification).

Second information contained in the card information is information on the access condition in the timing that the access device 100 accesses the semiconductor memory card 111. The information includes process type, process unit size, process unit boundary, process unit time, access method, minimum sequential area size at sequential access (abbreviated as SA in the figure), input clock frequency and bit width (see page 24, lines 18-25 of the specification).

Third information contained in the card information is information on the access rate of the semiconductor memory card 111. The information includes rate performance level, data size to be processed within unit time, required time for processing per unit size, transfer rate and process time of the semiconductor memory card 111 (see page 27, lines 16-21 of the specification).

Application No. 10/567,241
Amendment under 37 CFR 1.111
Reply to Office Action dated June 24, 2010
September 24, 2010

By this amendment, independent claim 1 has been amended to recite "said semiconductor memory card further comprises; a memory for a card information storage including a card information storage part which stores at least first information on physical characteristics in said semiconductor memory card, second information on an access condition at the time when said access device accesses said semiconductor memory card, and third information on an access rate of said semiconductor memory card when said access device performs access on said access condition".

Also, independent claim 16 recites "an access condition determination part for determining said access condition on the basis of the information acquired by said card information acquisition part, information on access performance of said semiconductor memory card and information stored in said card use condition storage part; a file system control part for acquiring said access condition determined by said access condition determination part and performing file access suitable for said access condition".

Also, independent claim 22 recites "an access condition determination step for determining said access condition on the

Application No. 10/567,241
Amendment under 37 CFR 1.111
Reply to Office Action dated June 24, 2010
September 24, 2010

basis of the information acquired in said card information acquisition step and information stored in said card use condition storage step; and a file system control step for acquiring said access condition determined in said access condition determination step and accessing a file in said semiconductor memory card so as to meet said access condition".

These claimed features are not shown or suggested by Hayashi et al.

Hayashi et al. relate to an electronic still camera operable with a storage medium, e.g., a memory card removably mounted thereto and loaded with a semiconductor memory for storing image signals (see col. 1, lines 3-11).

Hayashi et al. disclose that as shown in Fig. 1, the camera 1 has a playback section 17 for reproducing, as a still picture, an electric signal representative of a scene picked up via a lens 11. When a memory card 3 is removably mounted to the camera 1, the camera 1 is capable of compressing image data represented by the electric signal and storing them in the card 3. The memory card 3 is a semiconductor memory device capable of storing digital image data transferred from the camera, or host, 1 or sending an image signal to the host 1, as needed (see col. 3, lines 43-40).

Application No. 10/567,241
Amendment under 37 CFR 1.111
Reply to Office Action dated June 24, 2010
September 24, 2010

Hayashi et al. also disclose that as shown in Fig. 2, the memory card 3 removably mounted on the camera 1 is generally made up of an I/F 31, a controller 32, a register 22, and a memory 34 (see col. 5, lines 22-24). As shown in Fig. 3, specifically, the storage area of the card 3 includes a supervisory area 300 which is logically divided into a plurality of areas, i.e., six areas 301-306 in the embodiment. Information stored in, among the areas 301-306, the attribute information area 301 are stored in the register 33 (see col. 5, lines 31-36). For example, the kind 301a and storing speed 301b of the memory device are stored in the area 301 in a specific format shown in Fig. 3 (see col. 5, lines 45-48).

Hayashi et al. also disclose that the area 302 stores header information indicative of the used locations, idle locations and other locations of the data area. The area 303 stores packet identification (ID) information indicative of the kind and state of data, i.e., video data or audio data stored in the data area. The area 304 stores information relevant to packets, i.e., representative of image data other than, but relating to, image data stored in the data area (see col. 5, lines 59-66).

Hayashi et al. do not disclose that the semiconductor memory card further comprises: a memory for a card information storage

Application No. 10/567,241
Amendment under 37 CFR 1.111
Reply to Office Action dated June 24, 2010
September 24, 2010

including a card information storage part which stores at least first information on physical characteristics in the semiconductor memory card, second information on an access condition at the time when the access device accesses the semiconductor memory card, and third information on an access rate of the semiconductor memory card when the access device performs access on the access condition as claimed in independent claim 1.

Also, Hayashi et al. do not disclose that an access condition determination part for determining the access condition on the basis of the information acquired by the card information acquisition part, information on access performance of the semiconductor memory card and information stored in the card use condition storage part; a file system control part for acquiring the access condition determined by the access condition determination part and performing file access suitable for the access condition as claimed in independent claim 16.

Also, Hayashi et al. do not disclose that an access condition determination step for determining the access condition on the basis of the information acquired in the card information acquisition step and information stored in the card use condition

Application No. 10/567,241
Amendment under 37 CFR 1.111
Reply to Office Action dated June 24, 2010
September 24, 2010

storage step; and a file system control step for acquiring the access condition determined in the access condition determination step and accessing a file in the semiconductor memory card so as to meet the access condition as claimed in independent claim 22.

In the office action, the Examiner believed that Hayashi et al. disclosed that the supervisory area 300 of the card 3 stores first to third information, wherein kind 301a corresponded to the first information, information in areas 302 to 304 corresponded to the second information, and storing speed 301b corresponded to the third information.

However, in the present invention, the access condition of the second information is a condition that the access device uses when the access devices accesses to the memory card, and the third information on access rate means an access speed when the access device accesses the access condition. The access condition and access rate are closely related each other.

In the office action, the Examiner believed that information stored areas 302, 303 and 304 of Hayashi et al. corresponded to the second information of the present invention. Also, the Examiner believed that Hayashi et al. disclosed that information stored in the areas 302- 304 changed as the memory stores user data.

Application No. 10/567,241
Amendment under 37 CFR 1.111
Reply to Office Action dated June 24, 2010
September 24, 2010

However, the access condition of the present invention does not change as the memory stores the user data. Therefore, applicants respectfully submit that the information in areas 302 to 304 of Hayashi et al. does not correspond to the claimed second information of the present invention.

Also, applicants respectfully submit that the storing speed 301b in Hayashi et al. only shows a storing speed as a memory device and it does not correspond to the third information on the access rate of the present invention.

Further, applicants respectfully submit that Hayashi et al. do not disclose the file system as claimed in independent claims 16 and 22 at all.

For these reasons, it is believed that Hayashi et al. do not show or suggest the presently claimed features of the present invention.


New dependent claim 28, which directly depends from independent claim 1, has been added in the application. New dependent claims 28 has been added to recite "said second information includes a minimum sequential area size for sequential access". Therefore, allowance of new dependent claim 28 is also respectfully requested.

Application No. 10/567,241
Amendment under 37 CFR 1.111
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September 24, 2010

In view of foregoing claim amendments and remarks, it is respectfully submitted that the application is now in condition for allowance and an action to this effect is respectfully requested.

If there are any questions or concerns regarding the amendments or these remarks, the Examiner is requested to telephone the undersigned at the telephone number listed below.

Respectfully submitted,



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Date: September 24, 2010

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